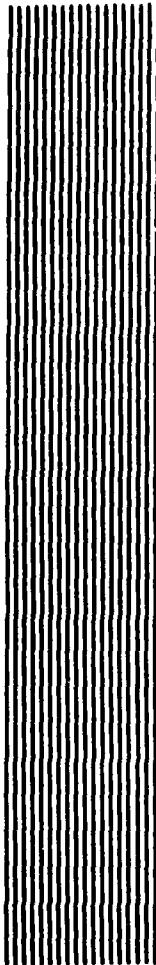


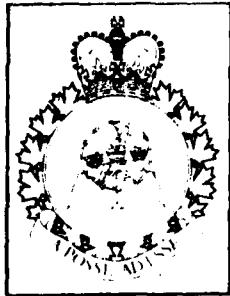
DA 1200405



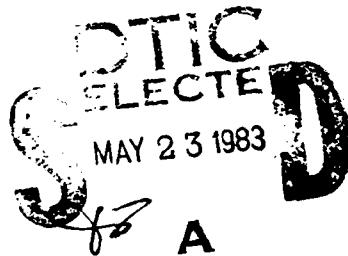
# THE INCREASING CAPABILITIES OF THE SOVIET NAVY

by

G.R. Lindsey



This document has been approved  
for public release and sale; its  
distribution is unlimited.



ORAE MEMORANDUM NO. M111

**ORAE**

DMC FILE COPY

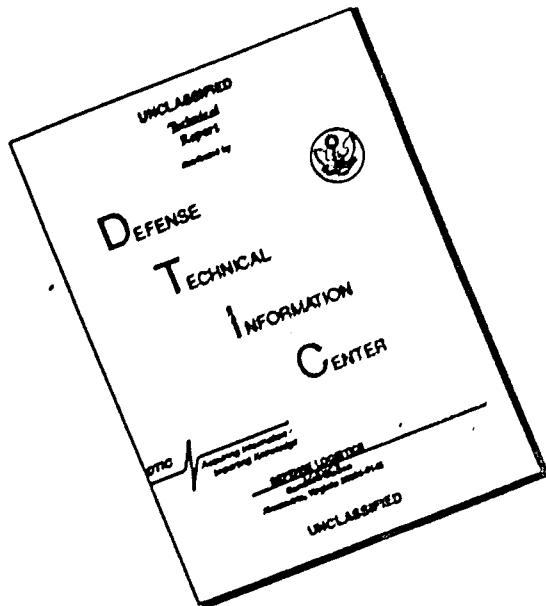
OPERATIONAL RESEARCH AND ANALYSIS ESTABLISHMENT  
DEPARTMENT OF NATIONAL DEFENCE

OTTAWA, CANADA

85 00 23 184

SEPTEMBER 1982

# DISCLAIMER NOTICE



THIS DOCUMENT IS BEST  
QUALITY AVAILABLE. THE COPY  
FURNISHED TO DTIC CONTAINED  
A SIGNIFICANT NUMBER OF  
PAGES WHICH DO NOT  
REPRODUCE LEGIBLY.

DEPARTMENT OF NATIONAL DEFENCE  
CANADA

OPERATIONAL RESEARCH AND ANALYSIS ESTABLISHMENT  
ORAE MEMORANDUM NO. M11

THE INCREASING CAPABILITIES  
OF THE  
SOVIET NAVY

By  
G.R. LINDSEY

Much of the material contained in this paper was presented to SACLANT's symposium SEALINK 82 held in Annapolis 15-17 June 1982.

Memoranda are issued for information purposes, and do not necessarily represent the views of any departmental agency.

OTTAWA, CANADA

SEPTEMBER 1982

## ABSTRACT

It is possible to explain the building programs of the Soviet Navy between 1938 and 1975 in terms of the threats perceived by them in distinct periods. A plan to possess a large ocean-going fleet was frustrated by World War II, resurrected when victory was in sight, and abandoned in the later 1940s for a force designed against amphibious assault on the Soviet coast. This threat was supplanted by nuclear strike by Western carrier-borne aircraft, and subsequently by submarine-launched ballistic missiles. The Soviet forces emphasized antiship cruise missiles, and then antisubmarine warfare, in both cases at increasing ranges from the home ports of the USSR. Finally, preservation of an assured Soviet nuclear capability to threaten Western population and cities assumed high priority, able to be kept intact during the progress of a conventional or even a limited nuclear war. This required the building of large Soviet SSBNs with long range SLBMs, and the provision of surface ships, aircraft, and submarines able to defend the SSBNs in protected bastions adjacent to the USSR.

This last requirement may provide adequate explanation for the Kiev class VTOL carriers and the Backfire bomber. But the latest cruiser (the nuclear-powered Kirov), destroyers (Udaloy and Sovremenny), SSBN (Typhoon), and SSGN (Oscar) are so much larger than any of their predecessors as to suggest a sharp discontinuity in purpose.



## RÉSUMÉ

Il est possible d'expliquer la réalisation, entre 1938 et 1975, des programmes de construction de la Marine soviétique en fonction des menaces qu'elle percevait à certaines périodes. Ainsi, le projet de se doter d'une vaste flotte de navires hauturiers, que la Deuxième Guerre mondiale avait fait avorter, a été relancé une fois la victoire en vue, puis abandonné de nouveau vers la fin des années 1940 au profit de la création d'une force navale destinée à faire échec aux assauts amphibies lancés contre la côte d'Union soviétique. Ont succédé à cette forme de menace, les coups atomiques que pourraient porter les avions occidentaux embarqués et, plus tard, les missiles balistiques lancés par sous-marin (SLBM). Les forces soviétiques ont donc mis l'accent sur les missiles anti-navires de croisière, puis sur la guerre anti-sous-marin (ASM), portant dans les deux cas les opérations de plus en plus loin des ports d'attache soviétiques. En fin de compte, il est devenu de la plus haute importance pour les Soviétiques de conserver le potentiel nucléaire voulu pour menacer les villes et populations occidentales, potentiel qui pourrait être maintenu au même niveau au cours d'une guerre classique ou même d'une guerre nucléaire limitée. La marine soviétique a donc construit de gros sous-marins nucléaires lance-missiles balistiques (SSBN) portant des SLBM à longue portée et a acquis des bâtiments de surface, des aéronefs et des sous-marins devant assurer la protection des SSBN dans des bastions adjacents à l'URSS.

Le dernier besoin cité suffit à expliquer la venue des porte-ADAV de la classe Kiev et du bombardier Backfire. Par contre, les bâtiments de construction récente, comme le croiseur à propulsion nucléaire Kirov, les destroyers Udaloy et Sovremenny, le SSBN Typhoon et le SSGN Oscar, sont sans commune mesure avec leurs ancêtres, ce qui pourrait laisser présumer un changement radical dans leurs fins d'utilisation.

Acknowledgement

The author wishes to acknowledge the helpful comments of colleagues in The Department of National Defence, and especially, of Dr. Michael McC Gwire of the Brookings Institute.

TABLE OF CONTENTS

	<u>Page</u>
Abstract .....	i
Résumé .....	ii
Acknowledgement .....	iii
Table of Contents .....	iv
1. Assessing Soviet Intentions .....	1
2. Soviet Strategy and Surface Warship Building Programs 1938-1975 .....	3
3. Submarine Construction .....	5
4. Soviet Naval Aviation .....	8
5. Protection of Soviet Strategic Submarines .....	10
6. Recent Developments .....	11
7. New Strategic Capabilities .....	13
8. Bibliography .....	19

## THE INCREASING CAPABILITIES OF THE SOVIET NAVY

### I. ASSESSING SOVIET INTENTIONS

Those concerned with evaluating threats and forecasting future activities find themselves obliged to deal with estimates of possible intentions and of apparent capabilities on the part of potential adversaries. This is particularly evident in the case of Western assessments of the Soviet navy. Intentions of a navy have to be closely linked to the interests and intentions of the state which they serve, and Western estimates of the intentions of the Soviet Union vary over a very wide range. It must be recognized, too, that even if today's intentions are correctly assessed, intentions, whether of the navy or of the nation, could change tomorrow. Capabilities, however, depend on assets such as warships and aircraft in service, and trained manpower, which can only be built up over a considerable period of time. It should be said, however, that the interests and intentions of major powers have shown considerable consistency through the postwar years.

There are, of course, close connections between intentions and capabilities. Intentions cannot come to fruition without the appropriate capabilities. Serious intentions, retained over a period of time, should generate programs to produce the capabilities needed to support the intentions. On the other hand, capabilities which may have been developed in response to technological opportunities rather than to strategic requirements, can, once demonstrated, generate intentions.

Western analysts have attempted to deduce Soviet intentions by examination of the capabilities of the ships, aircraft, and weapon systems produced for the Red Navy. Michael McGwire, for one, has engaged in this practice for a number of years. It does, inevitably, have the disadvantage of a time

lag, since a ship launched today represents a decision taken several years previously, based on intentions prevalent at that time and possibly changed today. During the 1970s, McCwire concluded that the Soviet strategy was primarily defensive, and reactive to Western initiatives.

In 1968 Commander Robert Herrick of the United States Navy published "Soviet Naval Strategy", an important historical analysis which concluded that the policy of the Red Navy was essentially reactive and defensive, a point of view not shared by many Western naval officers at the time.

Another window on Soviet intentions is provided by statements and writings of their leaders. The most important sources are the writings of Admiral Sergei Gorshkov, Commander in Chief of the Soviet Navy for over a quarter of a century. Extraordinarily interesting as they are, it is clear that his deductions and statements are constrained and partially motivated by political requirements, and his interpretation of history coloured by the prescriptions of Communist doctrine. Gorshkov's writings have been analyzed by Jürgen Rohwer, Robert Weinland, James McConnell, and Michael McCwire, amongst others. A persistent theme in Gorshkov's publications is that the USSR must have "a balanced fleet", by which he appears to mean a fleet capable of discharging all of its missions under all circumstances.

Perusal of Soviet naval history shows an oscillation between the ascendancy of a "classical school", which wanted to build a fleet of large warships able to contest the world's oceans with other great powers, and a "young school" which emphasized the role of the navy as an adjunct to the army, and with a prime responsibility for coast defence. Economic

difficulties militated against the building of large warships, and the experience of World War II confirmed the coastal roles in the Baltic and Black Seas.

2. SOVIET STRATEGY AND SURFACE WARSHIP BUILDING PROGRAM 1938-1975

To skip very quickly over the changes between 1938 and the middle of the past decade, we see Stalin planning a fleet of ten battleships, six battle cruisers and four aircraft carriers, stopped by World War II. But by 1944, when victory could be foreseen, the USSR renewed plans for a fleet including four aircraft carriers, eight battle cruisers, 24 cruisers, 175 destroyers, and no less than 1200 submarines. The impressive capability for amphibious assault assembled by the Western allies and demonstrated in the Mediterranean, Pacific, and Northwest European Theatres worried the Soviets and caused them to give priority to large numbers of submarines of no more than medium range (see Figure 1, showing a production run of about 240 Whiskey's, patterned after the wartime German type XXI, and about 30 Zulus, which included several variations of propulsion and armament, and six of which were later converted to carry ballistic missiles) to destroyers, (see Figure 2, showing a production run of 72 Skorys (not including some built for export) and 28 Kotlins) and to large numbers of smaller ships such as frigates, corvettes, and submarine chasers (see Figure 3, showing 24 Kola and 62 Riga frigates and 150 Kronstadt corvettes). Five Chapaev cruisers of pre-war design were completed, as were fourteen of the Sverdlov class (see Figure 4).

Next, after the death of Stalin in 1953, the primary threat was seen to be nuclear attack on the USSR from Western aircraft carriers. Surface ships would never get within gun

range of a carrier. Cruiser production was terminated, as was that of all the larger ships, and great expectations were placed in nuclear-armed long range cruise missiles, to allow the engagement of Western aircraft carriers by destroyer-sized surface ships, by submarines, and by land-based aircraft able to outrange the carrier-based bombers. Incomplete Kotlin destroyers were converted for surface-to-surface missiles, the Kildin class being the first in the world with this capability, soon followed by Krupnys (Figure 2 shows destroyers with guided missile armament as solid circles). Juliett, Echo II and a few Whiskey submarines, and Kynda and Kresta I cruisers were fitted with large anti-ship missiles with a very long range capability. The two quadruple launchers for Shaddock long range surface-to-surface missiles, the double launchers for a surface-to-air missiles, and 4 3-inch DP guns could be fitted into the 5600 ton Kynda cruiser, whereas the Sverdlovs, with 4 triple 6-inch and 6 double 4-inch gun turrets and 16 twin 37mm AA mounts had over three times the displacement. Naval Badger and Bear aircraft were given long range air-to-surface missiles. As the combat radii of the Western carrier aircraft increased, the reach of the Soviet missile-carrying vehicles operating close to bases in the USSR became insufficient to find and attack the carriers before their aircraft could be launched, and we saw the beginnings of "forward deployment" of the Red Navy. A countermeasure to the distant carrier force was to trail it by a fast "marking" surface ship or nuclear submarine armed with anti-ship missiles and able to signal for support.

The widespread deployment of shipborne cruise missiles included the fitting of the small Styx anti-ship missile on the Komar and Osa Fast Patrol Boats, giving a coastal force of small vessels formidable hitting power against ships of any size.

When the United States Navy deployed their first SSBNs, armed with the Polaris A1 SLBM, a new sea-based nuclear threat was added to that from the carriers. To counter this the Soviets began to emphasize anti-submarine (rather than anti-carrier) capability. The Moskva helicopter carrier was planned on a class of twelve ASW ships. The Kresta I cruiser program was changed to Kresta II, with anti-submarine replacing anti-surface missiles, and a helicopter carried, and the larger Kara cruiser was heavily armed for ASW. Kanin and Kotlin destroyers were converted from the anti-carrier to the anti-submarine role.

As the range of the American Polaris SLBM was raised from 1200 to 1520 to 2500 nm, the task of anti-SSBN defence became increasingly difficult. It became necessary to deploy the Soviet surface ships into more distant waters (including the Norwegian Sea, the Eastern Mediterranean, and later the Northern part of the Arabian Sea), and consequently to expose them to an attack beyond the range of friendly land-based air cover. Since 1961 no Soviet surface warship of destroyer size or larger has been launched without surface-to-air missiles, often supplemented by Dual Purpose 76 mm guns or 30 mm multiple Gatling guns, the latter able to destroy anti-ship missiles in flight.

### 3. SUBMARINE CONSTRUCTION

Coming out of World War II with about 80 submarines, and fearing an amphibious threat to their coast, the Soviets planned a large building plan for diesel-powered attack submarines. By the mid-1950s, when the threat was considered to have changed to carrier attack, the total number had risen to over 500, including Russian-built M,S,K, and Shch class boats completed before or during the war, some type XXI, VII and XXIII captured from the Germans, and the post-war Whiskey, Zulu and

Quebec classes indicated on Figure 1, Kruschev curtailed the building program, and redirected attention towards missile-carrying and nuclear-powered submarines, bringing in Admiral Gorshkov to implement the decisions. The number of Romeo class, intended as the successor to Whiskey, was limited to about twenty boats, instead of the planned 560, and the only other new conventionally-powered torpedo attack submarines completed between 1958 and 1968 were the long range anti-submarine Foxtrots.

The program for cruise-missile submarines is shown on Figure 5. The hollow circles indicate that the submarine is conventionally propelled; solid black circles signify nuclear power. The Whiskey Twin Cylinder and Whiskey Long Bin SSGs were conversions of the standard Whiskey conventional torpedo attack submarine.

The long range SS-N-3 cruise missiles on the Whiskey, Juliett, and Echo II submarines could only be launched with the boat on the surface, and required the assistance of an aircraft to guide the missile over the horizon. This limitation was acceptable as long as the range of its strike aircraft would oblige the Western carrier to come close enough to shore to permit the anti-carrier submarine to operate under the protection of Soviet shore-based aircraft. But when it became necessary to move farther from the coast, effective anti-carrier capability required both nuclear propulsion for the submarine and a missile that could be launched with the boat submerged. The Charlie SSGN with the SS-N-7 cruise missile meets both these requirements. The range of the missile is much shorter than that of the SS-N-3, so that the engagement can be completed without the aid of an aircraft.

The first vessel to have nuclear propulsion was the leading submarine of the November torpedo attack class, followed

by leading another dozen. Although believed to be built for the anti-submarine role, these were very noisy. Some years later the first of three classes of Victor SSNs soon appeared, with construction continuing still. The Victors are designed for both antisubmarine and antiship use, and can extend the range of their torpedoes by use of the rocket-propelled SS-N-15 missile. The prototype of a very fast and deep-diving SSN, the Alfa, was followed after about seven years by series production, still continuing. These nuclear-propelled submarines are larger than the diesel boat.

The series of ballistic missiles designed for submarines are illustrated on Figure 6, on which the vertical scale indicates the range of the missile. The first two, SS-N-4 and SS-N-5, required the submarine to be on the surface at the time of launching, while the SS-N-6 and later missiles are launched with the boat submerged. Very significant advances were achieved when the SS-N-8 appeared with a range of over 4000 nm, and the SS-N-18 with multiple independently guided warheads.

Figure 7 shows the program for ballistic missile submarines, with the hollow circles indicating conventional and the solid circles nuclear propulsion. The Z-V, the first ballistic missile submarine of any nation, was a conversion of the Z-class conventional attack submarine, to carry two ballistic missiles, while the Golf and Hotel boats carried three missiles each. All had to come to the surface to launch.

An important step in increased capability was taken with the production of the Yankee class SSBN, carrying sixteen SS-N-6 ballistic missiles which are launched with the boat submerged. However, to threaten targets in the middle of North America with a missile of 1600 nm range it was necessary for the submarine to patrol within a thousand miles or less of the coast.

With SS-N-8 missiles able to travel over 4000 nm, the Delta class SSBMs are able to threaten targets in North America from locations close to their Northern bases. It appears that construction of Delta III will continue, with Yankees being converted to other roles in order to keep the number of SSBMs and SLBMs within the limits prescribed by the SALT treaties.

Finally, to return to torpedo attack submarines, the number of nuclear-powered SSN boats has risen steadily, now exceeding fifty, with Victors and Alfas still in production. The number of conventionally powered SS has dropped to about 140 (as compared to 450 in the late 1950s), although Tangos are still being built. It is the submarine fleets in the Baltic and Black Seas which have been reduced in numbers, with about half of all the submarines now in the Northern Fleet. This would be consistent with the dedication of SSNs to the anti-submarine role - i.e. attack of Western SSBMs and defence of Soviet SSBMs.

#### 4. SOVIET NAVAL AVIATION

The land-based bombers, torpedo bombers, and fighter aircraft of the Soviet Naval Aviation performed useful service in the Black Sea and Baltic campaign of World War II, though a large proportion of the force was kept in the Pacific Theatre for use against Japan. In the early 1950s, when amphibious assault by NATO was considered to be likely, a similar naval air force was deployed, but once attack by land-based nuclear-armed bombers was seen as the main threat to the USSR, most of the fighters and some other naval aircraft were transferred to the centralized air defence command.

This left the naval air force with the roles of maritime reconnaissance and anti-shipping strike, which became more important during the period when attack by aircraft

carriers was thought to be a major threat, and of antisubmarine warfare, which assumed great importance once the Western SSBN threat took priority and once the Soviet SSBNs required protection. Some Badger and Blinder aircraft were configured for medium range maritime reconnaissance, and electronic warfare, and over 300 Badgers were fitted with air-to-surface antiship missiles. As forward deployment of Soviet maritime power developed, Bear D aircraft patrolled to great distances from the USSR, often making use of bases overseas in Cuba and Viet Nam, and facilities were established at various times in Angola, South Yemen, Ethiopia, Guinea, and elsewhere.

Naval aviation now possesses fighter-sized attack aircraft in the land-based Fitter and the VTOL Forger, embarked on the Kiev class carrier. For ASW the Soviets have May, the amphibian Mail, and some specially fitted Bear land-based fixed-wing aircraft, and Haze, Hormone, Hound, and Helix helicopters.

Since 1976, the naval air force has been receiving the supersonic swing-wing Backfire bomber equipped with ASMs, at the same rate as the long range air force. If fitted for in-flight refuelling from aerial tankers, the Backfire could provide the Soviets with a long range strike capability against any type of warship.

In Admiral Gorshkov's writings he makes several references to the failure of the Germans to support their U-boats, especially during their transits from base to operational area. It seems clear that he intends to have Soviet naval air, Soviet SSNs, and Soviet surface ships provide support to Soviet strategic and attack submarines, whether in transit or, to the extent possible, when in their patrol areas. Two of the roles for naval air will be to drive off Western anti-submarine aircraft and to detect the approach of Western

anti-submarine submarines.

Another role for Soviet maritime aircraft is to provide mid-course guidance for long range anti-ship missiles launched from surface ships or submarines who cannot establish direct contact with their target themselves.

##### 5. PROTECTION OF SOVIET STRATEGIC SUBMARINES

As the range of the Western SLBMs increased, with the development of Polaris A2 and A3, Poseidon, and Trident, the task of countering their threat by means of surface or air ASW platforms must have been considered virtually hopeless. The very fast and deep diving SSN, the Alfa, is probably intended as an effective opponent to the Western SSBNs, but development has been slow. On the other hand, the British, French, and especially the United States Navy have procured excellent SSNs capable of use in the ASW role. The Los Angeles class, in particular, will provide the USN with more than forty boats eminently suited for use against Soviet SSBNs.

As a consequence, there has been a modification to the employment of the Soviet ASW forces. Instead of trying to oppose Western SSBNs at distances increasingly far from the USSR, they will be applied to the protection of Soviet SSBNs against the threat of Western SSNs. Although Moskva carried sixteen ASW helicopters, she would be vulnerable while operating beyond land-based air cover. The program for twelve Moskvas was cut to two, and the much larger and more capable Kiev class begun. See Figure 8. In addition to 23 ASW and targeting helicopters, the Kievs carry 12 VTOL Forger fixed-wing aircraft for attack and reconnaissance, together with very heavy AA defences and also long range SS-N-12 anti-ship missiles. However, without AEW or high performance fighter aircraft, and with only a limited number of rather small strike aircraft, Kiev lacks the capability of the largest American attack carriers.

Krivaks, which are still being built, displaced 3600 tons, and are only slightly smaller than the Kashin destroyers. They carry towed sonar, anti-submarine missiles and rockets. They were originally categorized by their owners as "large ASW Ships". However, the Soviets have redesignated them as "patrol ships", and they are shown on Figure 3 as frigates, though much larger than any other Soviet ships labelled as frigates or corvettes. Nearly all of the more recent corvettes have been fitted with anti-surface and/or surface to air missiles, but their operations must be confined to coastal regions.

#### 6. RECENT DEVELOPMENTS

The developments in Soviet naval policy and in shipbuilding during the forty years from 1938 seem quite explicable and logical, largely driven by changes in Western naval capabilities. However, during the last year or so a number of new Soviet ships have been launched which appear to represent sharp discontinuities from former building programs, giving rise to questions about new directions in Soviet policy.

One remarkable new arrival is the Typhoon SSBN, thought to displace 25,000 tons. Whereas the Delta I, II, and III SSBNs represented only marginal increases in displacement tonnage from the Yankee, with the most important improvement being in the missiles, Typhoon has twice the tonnage of the Delta (note Figure 7), and is expected to carry 20 new SS-NX-20 SLBMs with 12 Reentry Vehicles and a range of 4500 km. It is even bigger than the new American Ohio class.

Another new Soviet giant is the Oscar SSGN. With three times the displacement of Charlie II (note Figure 5), which carries eight SS-N-7 antiship cruise missiles, Oscar is thought to carry 24 new SS-N-19 missiles, and, if deployed in

significant numbers, can threaten surface ships anywhere in the world's open oceans.

The guided missile cruiser Kirov represents the first Soviet nuclear-powered surface combatant. Displacing 23,000 tons it carries a truly formidable set of weapons, including long range antiship cruise missiles, antisubmarine missiles, several different anti-aircraft weapons, and helicopters. (Note Figure 4).

Another new cruiser, temporarily labelled Black-Com-1, has half the displacement of Kirov but is still larger than the Krestas and Karas and will have a multi-purpose weapons suite.

Two other new combatants whose tonnage and capabilities would have classified them as cruisers until recent changes in nomenclature, are Sovremenny, whose weapons give it a formidable anti-ship capability, and Udaloy, armed for anti-submarine warfare. (Note Figure 2).

A common factor in all of the developments just noted is that the newcomers are very much larger than any of their predecessors, a fact clearly demonstrated in the diagrams. This should allow them larger weapon magazines and greater endurance. The fact that the cruiser Kirov has a nuclear power plant seems an unmistakable clue that she is intended for long-distance operations. Both new cruisers (Kirov and Black-Com-1) have all-purpose weapons, i.e. anti-ship, anti-submarine, and anti-air, while the new destroyers are more specialized, with Sovremenny intended for antiship warfare and Udaloy for ASW. It is probably not possible to fit an all-purpose weapons suite into a single ship of less than cruiser size. Their various missile systems may provide them with antiship and air defence capability comparable to what can be accomplished by high performance carrier-based aircraft, but would have limited application in attacking land targets. In

the open ocean even one of these multi-purpose ships would be able to give a good account of itself. Operating in a task group, perhaps in company with a Kiev or a new aircraft carrier and within range of land-based Backfire aircraft, they could contest the approach of a Western Carrier Battle Group.

Continuing reliance on submarines for the protection of Soviet SSBNs is demonstrated by the continued building of nuclear-powered Victors, and diesel-powered Tangos. The nuclear-propelled Alfacs are probably intended for use against Western SSBNs. A new arrival is the conventional Kilo which may be a replacement for the ageing Whiskeys.

Classes not mentioned so far include ships for Fleet Replenishment and Amphibious Warfare. In both cases large new types have been introduced in recent years, including the 36,000 ton Berezina naval replenishment ship, six 24,000 ton Boris Chilikin and four 11,000 ton Dubna naval tankers, two 13,000 ton Ivan Rogovs, and eleven 3600 ton Ropuchka landing ships. These latter have been added to older ships (such as the fourteen 4500 ton Alligator tank landing ships) and newer hovercraft and hydrofoils, intended for amphibious operations to clear the exits from the Baltic and Black Seas.

#### 7. NEW STRATEGIC CAPABILITIES

The first thirty years of the post-war era showed Soviet maritime strategy reacting to successive perceived Western threats: amphibious assault, attack by aircraft carriers, and attack by ballistic missile submarines. Soviet ship design and written doctrine suggested inevitable early use of both tactical and strategic nuclear weapons in a short and very violent war.

But the recent changes in naval building suggest that there has been a fundamental alteration in Soviet strategy. The mid 1970s saw the appearance of the Kiev class carriers and the Backfire bombers, providing a quantum leap forward in Soviet maritime air capability, but explainable in terms of the need to counter the threat from Western carriers and SSBNs. Now the early 1980s have brought the Typhoon SSBN, the Oscar SSGN, the Kirov multi-purpose heavy cruiser with nuclear propulsion, the Sovremenny anti-ship destroyer, and the Udaloy anti-submarine destroyer.

All of these developments give the Soviets more range, more endurance, more hitting power, and more survivability than they have ever had before at sea. Coupled with the increasing use of overseas bases, operations in both peace and war can now be extended far beyond the former zones for defence of the homeland.

The types of ships and the apparent strategy for the Red Navy seen in the 1950s and 1960s suggested the expectation of a short war, beginning with very intense nuclear operations sometimes described as "the D Day shootout". The ships' weapons systems were designed for "the battle for the first salvo" rather than for survivability in an extended campaign. But there are increasing reasons to suspect that considerable changes have occurred in the past few years. Land-based ICBMs are developing a counter force capability to destroy the opponents' land-based intercontinental systems, including ICBMs in their sites, bomber aircraft and their bases and submarines in port. But SSBNs at sea are virtually invulnerable to a first strike, especially now that they can remain thousands of miles from their targets and still keep them in range. It is becoming more and more plausible to suppose that the Soviets plan to keep their SSBNs safe at sea during conventional hostilities and also during a first nuclear exchange, should this occur. The latter could well be confined to limited attacks on military targets.

It will be obvious to both sides that the cities of either can be attacked at any time, probably triggering retaliation in kind to the advantage of neither. It will be a better strategy to withhold and retain the threat than to execute it, especially as a bargaining asset at the end of the conflict.

Thus, instead of having a navy likely to be expended in the first few days of a short war, the USSR now needs a navy able to keep its SSBNs safe at sea for an indefinite period. The obvious strategy for this purpose would seem to be to use the geographical factors which have formerly counted as disadvantages, but now can be turned to assets. The Barents and Norwegian seas, the Seas of Japan and Okhotsk, can be used as bastions of defence for the Soviet SSBNs, provided that enemy ASW vehicles can be kept away. This may be the prime role for the new large multi-purpose ships, one that they might have to maintain for an extended period without much opportunity to return to ports that may have been destroyed.

Aside from the need to preserve the SSBN force in a protracted conflict, the Soviet Union must face the possibility of a war with China. In such an event the lines of communication from the Western USSR to the Far East would be vital, while the Eastern end of the Trans Siberian Railway, lying very close to the Chinese border, is extremely vulnerable. Sea communications over enormous distances would need to be expanded and defended. Unlike the situation vis-a-vis NATO, it is the Soviets who would depend on the sea in a war with China.

In any confrontation with the WPO, NATO will be heavily dependent on its ability to reinforce the European central front and the Northern and Southern flanks. In spite of all that can be done by prepositioning of stocks and by airlift, the resupply of the combatant formations, and before long the sustenance of the whole population, will depend on shipping. During a crisis,

the deployment of some of the powerful Soviet surface ships on NATO's sea lanes could have an important psychological effect, especially since their antiair and antisurface weapons would make them difficult to neutralize, and cruisers of the Kirov type would not be dependent on refuelling.

In a conventional conflict that lasted for weeks or months, Soviet units that were deployed in advance, including attack submarines as well as surface ships and aircraft, could wreak serious havoc against NATO shipping, and would demand a most unwelcome dispersion of NATO naval strength. While surface raiders did not account for a large percentage of the Allied merchant ships destroyed in the two World Wars, it should be remembered that some sorties were extremely successful (Emden sank or captured 23 merchantmen in the Bay of Bengal in 1914, Admiral Scheer 16 in the Atlantic and Indian Ocean in 1940-41, and the Scharnhorst and Gneisenau 22 on the Atlantic in 1941). Perhaps even more important than the tonnage destroyed was the requirement placed on the Allies to allocate major surface units to protect convoys and to hunt the raiders. Forces hunting commerce raiders today would be aided by the reconnaissance capabilities of satellites and long range patrol aircraft. However, the raiders would have information from Soviet radar ocean reconnaissance satellites and aircraft, too, to help locate their prey and to avoid surface hunters. To match the more powerful Soviet surface ships, NATO might require nuclear-powered attack submarines or an attack carrier in the right place, assets likely to be in very short supply.

The main battles would be likely to occur in the Norwegian Sea, which the Soviets would wish to control in order to ensure unimpeded access for their submarines, aircraft, and surface ships from the Kola bases to the North Atlantic, as well as to keep Western ASW forces away from Soviet SSBNs. In order to combat NATO carrier battle groups contesting the Norwegian

Sea, the Soviets have their growing force of land-based Backfire bombers supported by electronic warfare, a concentration of their latest submarines in the Northern fleet, with cruise missiles and torpedos, and surface ships with anti-ship and anti-air missiles. If they can dispose of the NATO carriers, their own carriers and well-armed surface combatants and growing force of amphibious craft with naval infantry could assault the coasts and airfields of Northern Norway and of Iceland. In this regard, the large size of the Oscar SSGN allows it to have launching tubes for twenty-four anti-ship cruise missiles. A nearby simultaneous salvo of as many as half of these would probably saturate the defences of a carrier battle group.

If the Soviets succeed in claiming the GIUK gap, the large number of Soviet submarines and antishipping aircraft could operate freely against the North Atlantic sea lines. The potential of the Oscar SSGN is particularly noteworthy for this purpose.

In scenarios short of a major NATO/WPO conflict, the new large Soviet surface ships could form task groups as impressive and powerful as anything NATO can produce short of a full carrier battle group. Thus the navy will become increasingly able to back up the projection of Soviet power and influence by means short of major war. Related to this capability is the steady growth of the merchant fleet, able to supply clients with goods shipped in Soviet bottoms, and also providing increasing competition to the shipping lines of Western powers.

Thus, one of the strategic intentions behind the new Soviet ships and submarines could well be to increase their political leverage in the highly competitive circumstances of "peaceful coexistence", as well as to prepare for a major war in which nuclear weapons are withheld from all-out use against

population, and quite possibly withheld from all use. The plans for this protracted war would include an early campaign to obtain control of the Norwegian Sea and the GIUK gap, followed by an attack on NATO's sea lines of communication.

It would seem that the "Old School", the one wishing to build a large balanced fleet to contest the world's oceans, is back in favour in the Kremlin.

It may be that the Soviets approach naval planning in the same way as they do chess, a game at which they are the world's best. Moves are only made after long and careful planning, in which all of the various moves open to the opponent are considered. When weaker in material, one's own moves are defensive and cautious. But with more numerous or more powerful pieces than the opponent, it is possible to plan more aggressively, with the object of gaining a commanding positional advantage and ultimately threatening the King. Note that in chess the King is never actually captured. Once it is seen by both players that checkmate is inevitable, victory is conceded. In tournament play it is not uncommon for the masters to adjourn while an adjudicator examines the board and decides who has a winning position. Or if most of the pieces have been exchanged and mutual exhaustion is approaching, with the position approximately equal, one player offers the other a draw.

What the Soviets are doing today is filling the board with powerful white pieces. Why not black, or red pieces? Because in chess White has the first move.

BIBLIOGRAPHY

Breyer, Siegfried and Polmar, Norman. Guide to the Soviet Navy. Annapolis, Naval Institute Press, 1970 and 1977.

Albrecht, Gerhard. Warships of the world, 1971. Annapolis, US Naval Institute, 1970.

Couhat, J.L. ed. Combat fleets of the world, 1982-83. Annapolis, Naval Institute Press, 1982.

Jane's Fighting Ships. Jane's , London (annual).

International Institute for Strategic Studies. The military balance. London (annual).

USGPO (1981). Soviet military power.

Gorshkov, Admiral S.G. The sea power of the state. Annapolis, Naval Institute Press, 1979.

Rohwer, Jurgen. Admiral Gorshkov and the influence of history upon sea power. USNIP, May 1981, 150-173.

Herrick, Robert. Soviet naval strategy. Annapolis, US Naval Institute, 1968.

McCormick, M. ed. Soviet naval developments: content and capability. New York, Praeger, 1973.

McCormick, M., Booth, K., McDonnell, J. eds. Soviet naval policy: objectives and constraints. New York, Praeger, 1974.

McCormick, M., McDonnell, J. eds. Soviet naval influence: domestic and foreign dimensions. New York, Praeger, 1975.

McCormick, Michael. The rationale for the development of Soviet seapower. USNIP, May 1980. 154-183.

Moore, John. The Soviet navy today. London, MacDonald and Jane's 1975.

Hopker, Wolfgang. Soviet global strategy: the great challenge to the West at sea. USNIP, December 1975. 24-29.

Wegener, Edward. The Soviet naval offensive. Annapolis, Naval Institute Press, 1975.

Murphy, Paul ed. Naval power in Soviet policy. Washington, USGPO, 1978.

McGruther, Kenneth. The evolving Soviet navy. Newport, Naval War College, 1978.

Office of the CNO. Understanding Soviet naval developments. Washington, 1978.

George, James ed. Problems of sea power as we approach the twenty-first century. Washington, American Enterprise Institute for Public Policy Research, 1978.

Nitze, Paul, Sullivan, Leonard and the Atlantic Council Working Group on Securing the Seas. Securing the seas. Boulder, Westview Press, 1979.

Zakheim, Dov. A carrier for Admiral Gorshkov. Newport, Naval War College Review XXXV,1, 1982 32-39.

(•) SSN  
AND  
( ) SS

SUBMERGED DISPLACEMENT (TONS)

6000

5000

4000

3000

2000

1000

0

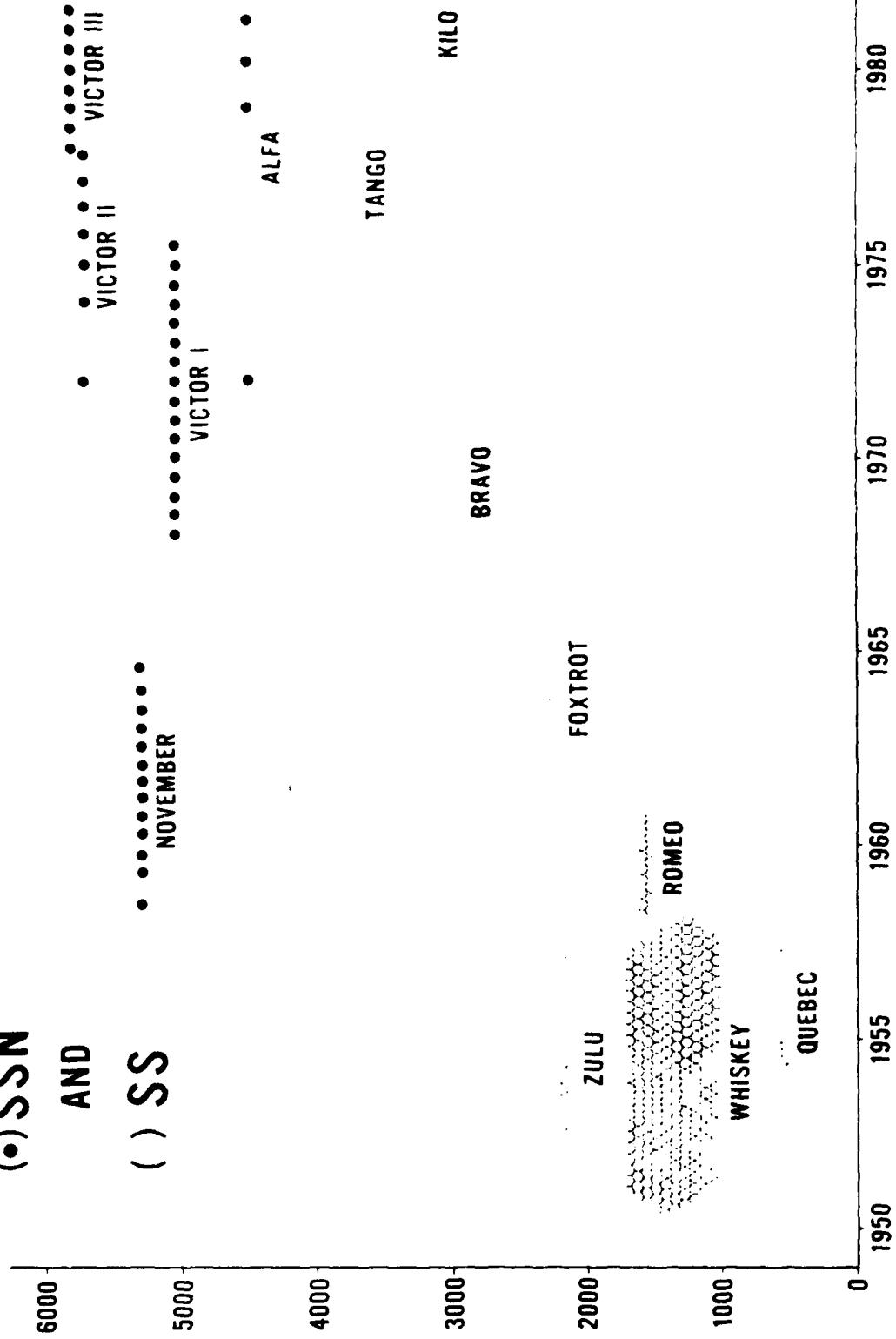


Figure 1

000S 82033078V

# DESTROYERS

(• WITH GUIDED MISSILES  
□ GUN-ARMED ONLY)

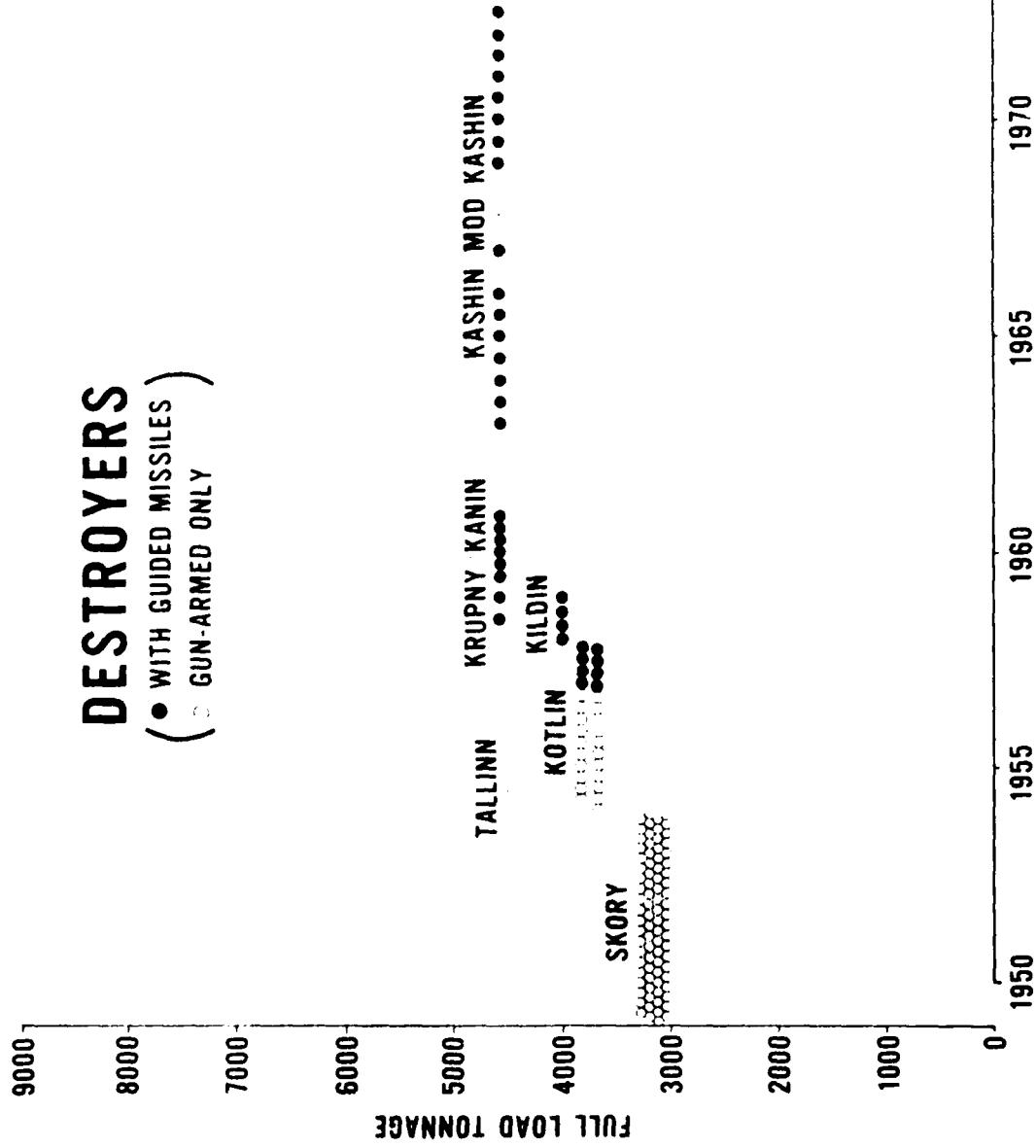


Figure 2

0000 82C333-64

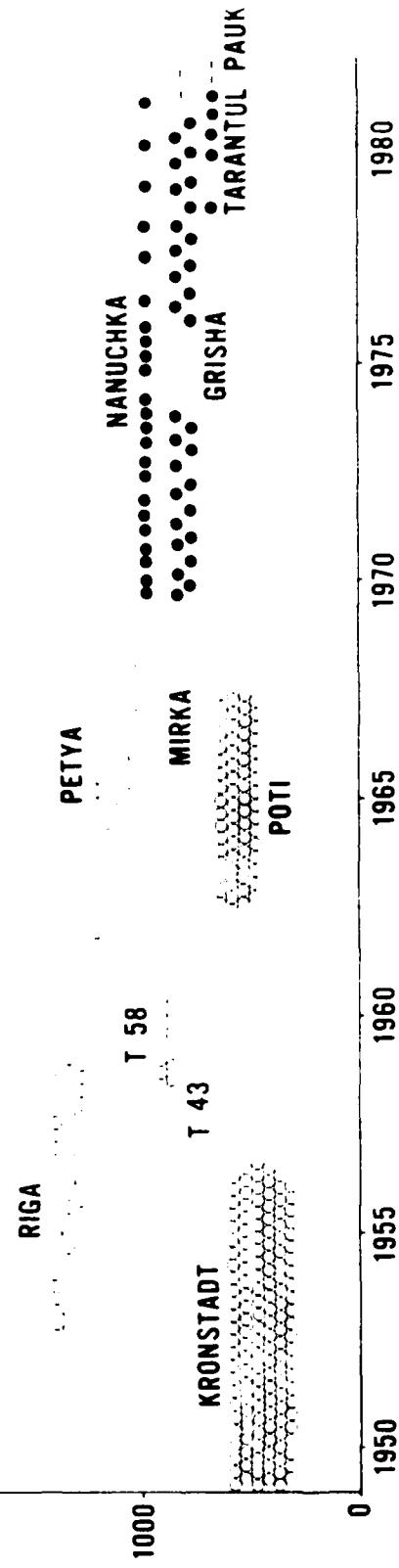


Figure 3

000S 82033078V

# CRUISERS

(• WITH GUIDED MISSILES  
□ GUN-ARMED ONLY)

25,000

20,000

CHAPAEV

FULL LOAD TONNAGE

10,000

5,000

KYNDY

KRESTA I

KRESTA II

KARA

BLACK-1

COM-1

- 24 -

1950 1955 1960 1965 1970 1975 1980

DDDS 820330784

Figure 4

(•) SSGN  
&  
(○) SSG

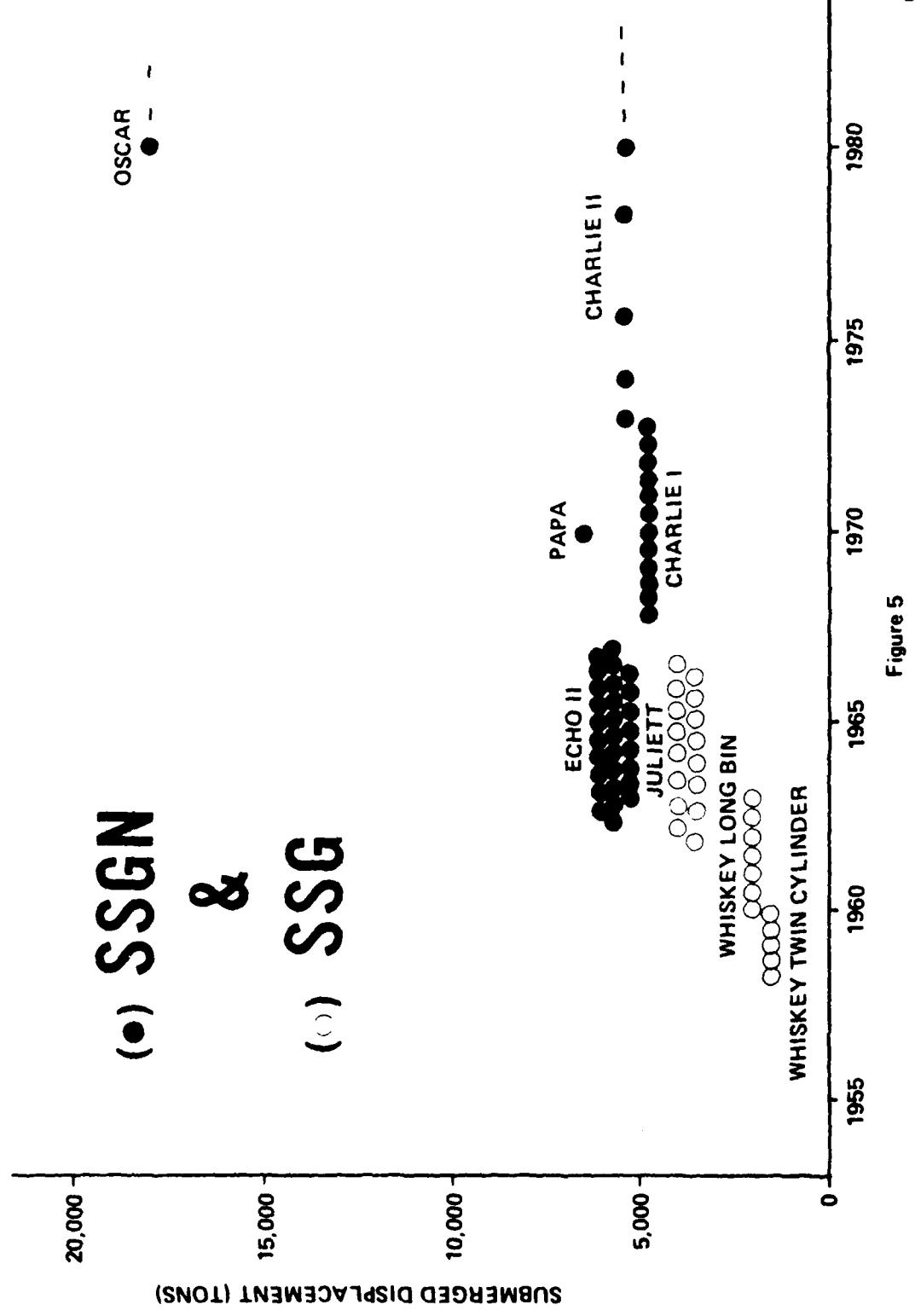


Figure 5

DDDS 82033078V

# SLBM

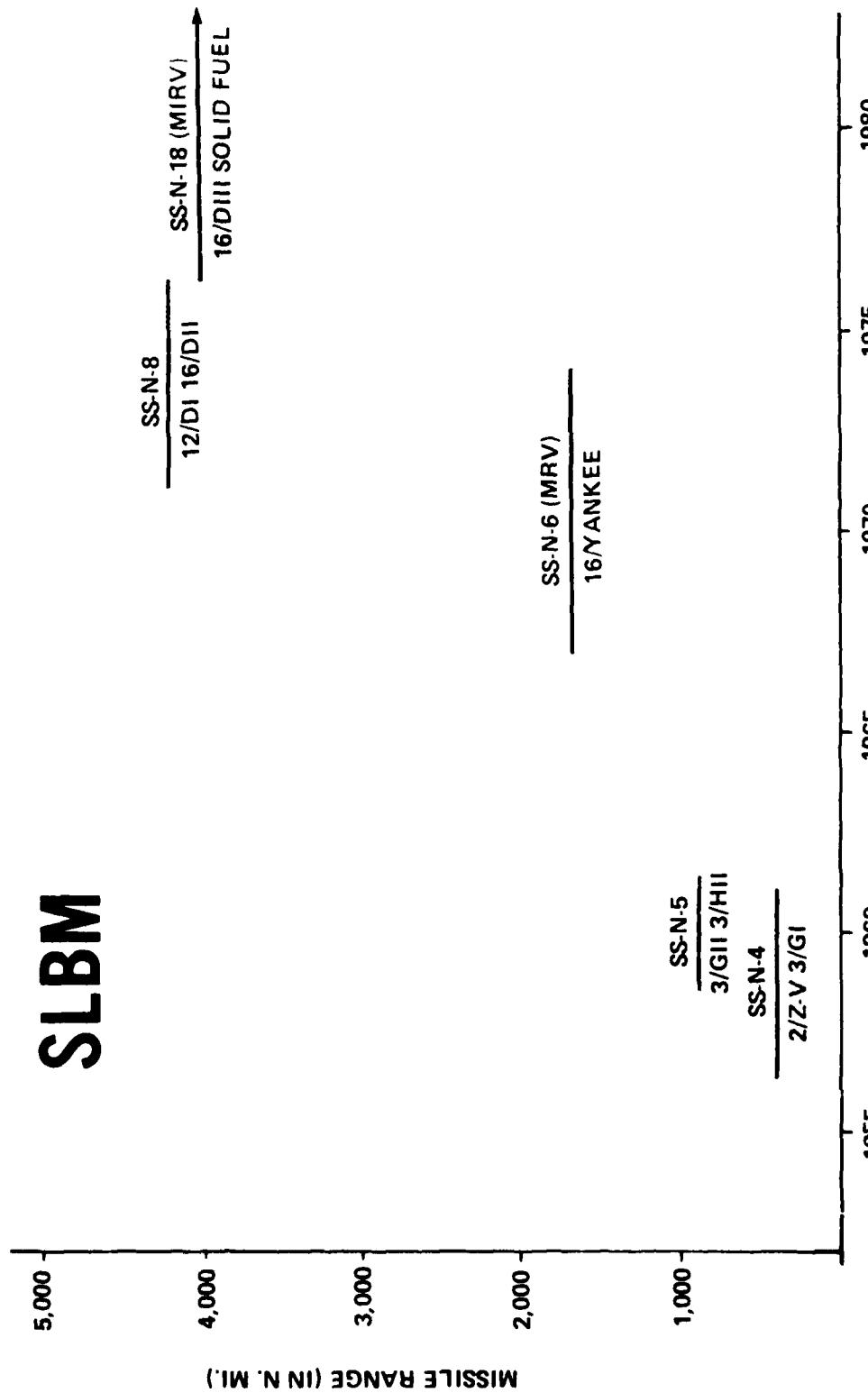
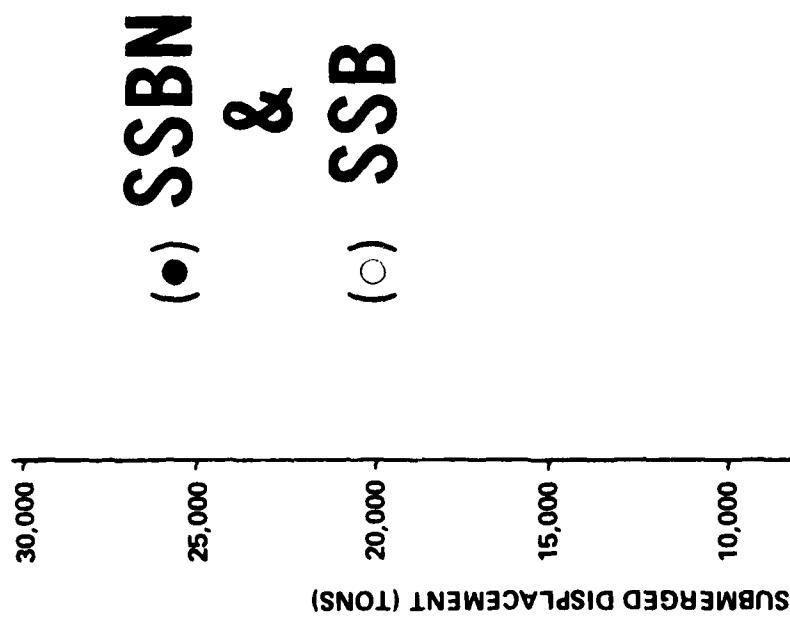


Figure 6

DDOS 82033078V  
CC



- 27 -

DOOS 82033078v

Figure 7

# CARRIERS

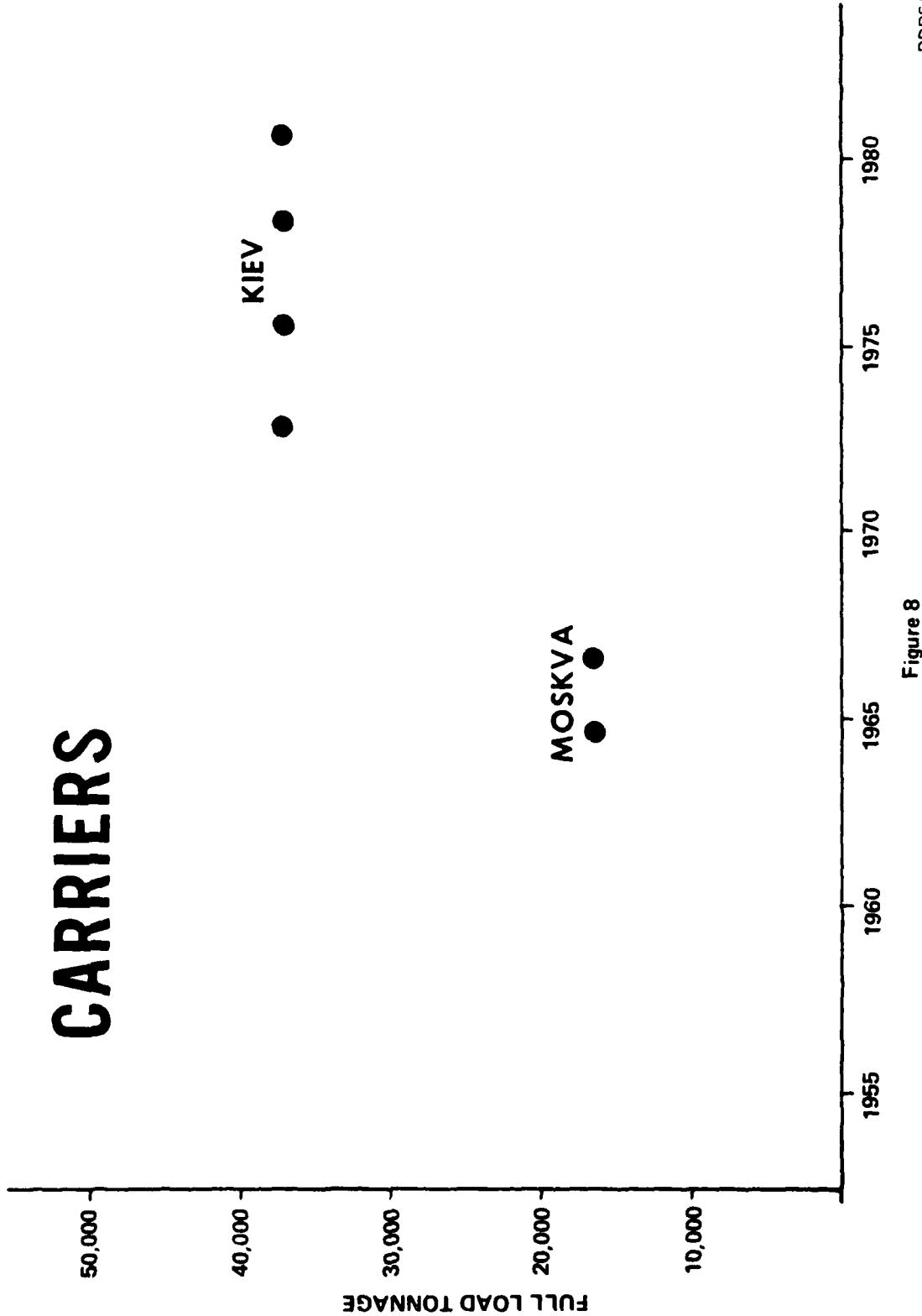


Figure 8

DDDS 820330-8\

UNCLASSIFIED

Security Classification

## DOCUMENT CONTROL DATA - R &amp; D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall document is classified)

1. ORIGINATING ACTIVITY Department of National Defence Operational Research and Analysis Establishment		2a. DOCUMENT SECURITY CLASSIFICATION UNCLASSIFIED
3. DOCUMENT TITLE The Increasing Capabilities of the Soviet Navy		2b. GROUP
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)		
5. AUTHOR(S) (Last name, first name, middle initial)  Lindsey, G.R.		7a. TOTAL NO OF PAGES   7b. NO OF REFS 32
6. DOCUMENT DATE September 1982		9a. ORIGINATOR'S DOCUMENT NUMBER(S) ORAE Memorandum No. M11
8a. PROJECT OR GRANT NO 96112		9b. OTHER DOCUMENT NO (S) (Any other numbers that may be assigned this document)
8b. CONTRACT NO.		
10. DISTRIBUTION STATEMENT Unlimited distribution		
11. SUPPLEMENTARY NOTES		12. SPONSORING ACTIVITY ORAE
13. ABSTRACT <p>It is possible to explain the building programs of the Soviet Navy between 1938 and 1975 in terms of the threats perceived by them in distinct periods. A plan to possess a large ocean-going fleet was frustrated by World War II, resurrected when victory was in sight, and abandoned in the later 1940s for a force designed against amphibious assault on the Soviet coast. This threat was supplanted by nuclear strike by Western carrier-borne aircraft, and subsequently by submarine-launched ballistic missiles. The Soviet forces emphasized antiship cruise missiles, and then antisubmarine warfare, in both cases at increasing ranges from the home ports of the USSR. Finally, preservation of an assured Soviet nuclear capability to threaten Western population and cities assumed high priority, able to be kept intact during the progress of a conventional or even a limited nuclear war. This required the building of large Soviet SSBNs with long range SLBMs, and the provision of surface ships, aircraft, and submarines able to defend the SSBNs in protected bastions adjacent to the USSR.</p> <p>This last requirement may provide adequate explanation for the Kiev class VTOL carriers and the Backfire bomber. But the latest cruiser (the nuclear-powered Kirov), destroyers (Udaloy and Sovremenny), SSBN (Typhoon), and SSGN (Oscar) are so much larger than any of their predecessors as to suggest a sharp discontinuity in purpose.</p>		

KEY WORDS

Soviet naval building programs  
Soviet naval capability  
Soviet intentions  
Soviet naval strategy  
Soviet navy  
Anti-ship missiles

INSTRUCTIONS

1. ORIGINATING ACTIVITY: Enter the name and address of the organization issuing the document.
2. DOCUMENT SECURITY CLASSIFICATION: Enter the overall security classification of the document including special warning terms whenever applicable.
3. GROUP: Enter security classification group number. The three groups are defined in Appendix "M" of the DRB Security Regulations.
4. DOCUMENT TITLE: Enter the complete document title in all capital letters. Titles in all cases should be unclassified. If a sufficiently descriptive title cannot be selected without classification, show title classification with the usual one-capital-letter abbreviation in parentheses immediately following the title.
5. DESCRIPTIVE NOTES: Enter the category of document, e.g. technical report, technical note or technical letter. If appropriate, enter the type of document, e.g. interim, progress, summary, annual or final. Give the inclusive dates when a specific reporting period is covered.
6. AUTHOR(S): Enter the name(s) of author(s) as shown on or in the document. Enter last name, first name, middle initial. If military, show rank. The name of the principal author is an absolute minimum requirement.
7. DOCUMENT DATE: Enter the date (month, year) of establishment approval for publication of the document.
8. TOTAL NUMBER OF PAGES: The total page count should follow normal pagination procedures, i.e., enter the number of pages containing information.
9. NUMBER OF REFERENCES: Enter the total number of references cited in the document.
10. PROJECT OR GRANT NUMBER: If appropriate, enter the applicable research and development project or grant number under which the document was written.
11. CONTRACT NUMBER: If appropriate, enter the applicable number under which the document was written.
12. ORIGINATOR'S DOCUMENT NUMBER(S): Enter the official document number by which the document will be identified and controlled by the originating activity. This number must be unique to this document.
13. OTHER DOCUMENT NUMBER(S): If the document has been assigned any other document numbers (either by the originator or by the sponsor), also enter this number(s).
14. DISTRIBUTION STATEMENT: Enter any limitations on further dissemination of the document, other than those imposed by security classification, using standard statements such as:
  - (1) "Qualified requesters may obtain copies of this document from their defence documentation center."
  - (2) "Announcement and dissemination of this document is not authorized without prior approval from originating activity."
15. SUPPLEMENTARY NOTES: Use for additional explanatory notes.
16. SPONSORING ACTIVITY: Enter the name of the departmental project office or laboratory sponsoring the research and development. Include address.
17. ABSTRACT: Enter an abstract giving a brief and factual summary of the document, even though it may also appear elsewhere in the body of the document itself. It is highly desirable that the abstract of classified documents be unclassified. Each paragraph of the abstract shall end with an indication of the security classification of the information in the paragraph (unless the document itself is unclassified) represented as (TS), (S), (C), (R), or (U).  
The length of the abstract should be limited to 20 single-spaced standard typewritten lines, 7½ inches long.
18. KEY WORDS: Key words are technically meaningful terms or short phrases that characterize a document and could be helpful in cataloging the document. Key words should be selected so that no security classification is required. Identifiers, such as equipment model designation, trade name, military project code name, geographic location, may be used as key words but will be followed by an indication of technical context.